Binary Descriptor Page

Local Station Application

Oct 12, 1989

Introduction

The Binary Descriptor Page provides for general binary bit and byte database and I/O manipulation. One can enter the 16-character descriptions of each bit, the alarm flags for each bit, set or clear individual bits, set binary bytes, and monitor the current state of bits and associated trip counts. It can also output a listing of a range of bits in a node.

Display layout

```
 0   B BINARY DESCRIPT 06/22/88 1214
 1   ___BIT#<07:000>-<:3FF>    _LIST      node/bit, range
 2   000  00 00 00 00 00 00 00 00         32 raw data bytes
 3   040  00 00 00 00 00 00 00 00
 4   080  00 00 00 00 00 00 00 00
 5   0C0  00 00 00 00 00 00 00 00  #T
 6   007<TITLE OF BIT    >0 <10010> 0     bit titles,
 7   006<TITLE OF BIT    >0 <10010> 0    bit data,
 8   005<TITLE OF BIT    >0 <10010> 0    alarm flags,
 9   004<TITLE OF BIT    >0 <10010> 0    trip count
10   003<TITLE OF BIT    >0 <10010> 0
11   002<TITLE OF BIT    >0 <10010> 0
12   001<TITLE OF BIT    >0 <10010> 0
13   000<TITLE OF BIT    >0 <10010> 0
14   *ZERO TRIPS  ACT,NOM,INH,2X,BEAM     clear trips
15
```

Displayed data

There are several areas of interest. Select a node and bit# on line 1 and interrupt to select a byte that contains that bit and show the text for all bits in that byte. The ending bit# gives a range of bits that are used for generating a listing (by interrupting under `LIST`) and causes a wrap when using the raise/lower buttons to advance the selected byte. The 3 hex digit bit# allows for 4096 bits in a system, which is 512 bytes. The three characters just before the `BIT#` prompt are used to display the data request status code for the three relevant requests that provide the data for the page. The character just before the word `LIST` is used for a blinking "*" while a listing is active. Interrupt again to terminate a listing.

The four lines starting at line 2 show 32 bytes of binary data. The first bit# for the data on that line is shown at the left. Enter a new bit# at the start of line 2 to change the set of 32 bytes displayed, or use the raise/lower buttons with the cursor on any of these 4 lines to move

through successive 32-byte chunks of binary data. The range given in line 1 determines when this logic wraps. If the current byte is in the range of 32 bytes shown, the current byte value is shown in inverse video.

The 16-character bit titles are shown on lines 6–13. The bit# is at the start of the line. To the right of the text is the present bit value. To the right of the bit value is the alarm flags for that bit, where the significance of the bits displayed are listed on line 14. They are:

ACT	Active (=1)
NOM	Nominal state
INH	Inhibit beam if bad (=1)
2X	Require two times for change of state (=1)
BEAM	Only scan for alarms on beam cycles (Bit $9F = 0)

The last value shown on a beam title line is the trip count. If the trip count for a bit is > 99, the count overwrites the “>” symbol. In any case, the largest value is 255, as it is a byte-size value.

Control actions

Interrupt under the LIST word to start / stop a listing of the range of bits indicated on line 1. The format produced is as follows:

```
BINARY DESCRIPT 03/29/89 1417
 BIT#<20:000>-<:2FF>
 BIT TITLE            V  ANI2B #T    BIT TITLE            V  ANI2B #T
 007<SPARE           >1 <00000> 0    00F<STANDBY         >0 <00000> 0
 006<INTERLOCK FAULT >0 <00000> 0    00E<TIMING          >0 <00000> 0
 005<AMP TEMP FAULT  >1 <00000> 0    00D<AMP AC ON       >1 <00000> 0
 004<AMP LOAD FAULT  >0 <00000> 0    00C<VAC OK          >1 <00000> 0
 003<ALL ON          >1 <00000> 0    00B<FANS OK         >1 <11000>82
 002<AMP BIAS ON     >1 <11000255    00A<TEMP ON         >1 <00000> 0
 001<LLRF ON         >1 <00000> 0    009<DOORS OK        >1 <00000> 0
 000<AMP DC ON       >1 <00000> 0    008<REMOTE          >1 <10000>68
```

Enter a new binary byte value over the displayed value on lines 2–5 and interrupt to cause that *byte* to be set.

Enter a new title and interrupt to set the new title for that bit.

Change the alarm flags and interrupt to establish new alarm flags.

Interrupt on line 14 to cause a clear trips command to be set to the current node whose binary data is displayed on the page.

Bit control

Interrupt in the area where the bit value is displayed to control the bit in several ways:

1. Interrupt with the cursor under the bit value (0 or 1) to toggle the bit value to the other state.

2. Type a new bit value (0 or 1) and interrupt with the cursor just after the character to set the new value.

3. Type a new value (2–9,A–Z, which implies 2–35) to pulse the bit hi for that number of 15 Hz cycles.

4. Type a period (“ . ”) to issue a short (20 µ sec) pulse.